Wonder Plant Amarnath

3808. SHRI B.K. HARIPRASAD: Will the Minister of AGRICULTURE be pleased to state:

(a) whether Government are aware of the poineering work done by Rodale Institute in Pennsylvania, USA on the new wonder plant of the future Amarnath and if so, the details thereof;

(b) whether Amarnath is widely used in India as a green vegetable and if so, the details thereof indicating the number of varieties available with our Agricultural and Research Development Units and whether these are part of the gene banks; and

(c) what is the chemical composition of the best variety of Amarnath grown in the country and which are the main centres working on this wonder plant of the future indicating funds made available during the last five years?

THE MINISTER OF STATE IN THE MINISTRY OF AGRICULTURE (SHRI K. C. LENKA): (a) Yes Sir. The institute is engaged mainly in the overall improvement of grain Amarnath rich in lousine and lysine content and standardisation of their agrotechniques. They have developed many high yielding varieties like 20-USA (Rodale Selection) 28-USA, R-103, R-104, R-149 and 158. Besides a project on breeding, the agronomic research at Rodale Research Centre in Pennsylvania has been remarkably successful at developing Amarnath for modern farm conditions. Since 1976, more than 1000 types of Amarnath have been gathered from many parts of the world. Uniform varieties have been developed, which can be mechanically sown, cultivated and harvested. Institute is also maintaining a gene bank of Amarnath. It is working on identification of potential end uses of grain Amarnath such as developing wholesome nutritive foods (including baby foods) that are rich in lysine (upto 25%) and loucino (upto 40%) using Amarnath grain as one of the ingredients.

(b) Yes, Amarnath is consumed as green vegetable in Tamil Nadu, Kerala, West Bengal, Maharashtra, Karnataka, Orissa, Andhra Pradesh and parts of Delhi- Himachal Pradesh, Uttar Pradesh etc. The list of 14 varieties available with our research and development units is placed at Statement-I (*See* below):

These varieties constitute a part of the gene banks in India.

(c) The Chemical composition of vegetable Amarnath is appended at Statement-II. (*See* below)

Six research centres are working on vegetable Amarnath in India, as listed in Statement-III. (*See* below)

at IIHR, Bangalore and Kerala Agricultural University, both together a sum of Rs. 65,000/- to 70,000/- approximately is spent on Amarnath research annually.

Statement-I

The varieties available with Agricultrual Research Units are as follows.

Name of the variety	Research Units
1. Kiren and Pussa Kirti	Indian Agricultural Research Institute, New Delhi.
2. Badi Cholai, Annapurna.	National Bureau of Plant Genetic Resources, New Delhi.
3. AV-47, AG-32, AG-46	Indian Institute of Horticultural Research, Bangalore.
4. Co1, Co2, Co3, Co4	Tamil Nadu Agricultural University, Coimbatore.
5. Arun & Kannara local	Kerala Agricultural University, Vellanikkara.
6. GKVK-1	University of Agricultural Sciences, Bangalore.

Statement-II

The chemical composition of the vegetable Amarnath is as follows.

Composition of Tender Vegetable Amarnath (per 100 gm. of *edible portion)*

Constituent	*Qty.*	
Moisture	85.70	g
Carbohydrates	6.1 to 6.30	g
Fat	0.50	g
Fibre	1.00	g
Protein	4.00	g
Minerals	2.70	g
Magnesium	247	mg
Phosphorus	83.00	*mg*
Sodium	230.00	mg
Iron	25.50	mg
Potassium	341.00	mg
Calcium	397.00	mg
Nicotinic acid	1.00	mg
Sulphur	61.00	mg
Vitamin-A	9200.00	IU
Vitamin-B		
Thiamine	0.03	mg
Riboflavin	0.30	mg
Vitamin-C	0.1 to 99.00	mg
Calories	45	

Chemical composition of raw and popped Amaranth

(Per 100 gm of edible portion)

Constituent	Raw Grain	Popped Grain
Protein	16%	15.5%
Leucine	6.46 mg	6.62 mg
Lysine	4.83 mg	3.08 mg
Minerals	2.93 mg	2.96 mg
Energy	410.0 Cal.	415.0 Cal.
Phosphorus	548.0 mg	525.0 mg
Iron	13.9 mg	11.7 mg

Statement III

Research Centres Working on Vegetable Amaranth

I. ICAR INSTITUTES:

(a) Indian Agricultural Research Institute, New Delhi.

(b) National Bureau of Plant Genetic Resources, New Delhi.

(c) Indian Institute of Horticultural Research, Bangalore.

II. STATE AGRICULTURE UNIVERSITIES

(a) Tamil Nadu Agriculture University, Coimbatore.

(b) Kerala Agricultural University, Trichur.

(c) University of Agriculture Sciences, Bangalore.

For Oil Palm National Research Centre in Karnataka

3809. SHRI B.K. HARIPRASAD: Will the Minister of AGRICULTURE be pleased to refer to the answer to Unstarred Question 1663 given in the Rajya Sabha on the 24th July, 1992 and state:

(a) whether the Export Committee constituted by the Indian Council of Agricultural Research has submitted its report to identify a possible site offered by Karnataka State Government for setting up of the National Research Centre for oil palm; and

(b) if so, what are the details thereof?

THE MINISTER OF STATE IN THE MINISTRY OF AGRICULTURE (SHRI K.C. LENKA): (a) No Sir.

(b) Does not arise.